

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A method for conveying data between at least two users having a connection in a communications network comprising at least one low-bit-rate artery, one or more arteries working at standard bit rates, a basic transmission unit, at least two adaptation units, and at least one adaptation layer protocol, the data to be transmitted taking the form of packets having a size smaller than the size of the basic transmission unit, the method comprising:

upstream from the low-bit-rate artery at an adaptation unit assigned to an originating user, collecting data from the originating user and converting said data into coded frames using a compression algorithm;

forming a packet of application data comprising a number of coded frames;

forming a Common Part Sublayer packet comprising the packet of application data;

inserting the Common Part Sublayer packet into a basic transmission unit at a rate of one packet per unit and sending said unit through a network to a first end of the low-bit-rate artery;

at the first end of the low-bit-rate artery, extracting multiple Common Part Sublayer packets from basic transmission units received from different originating users and multiplexing said packets in a basic transmission unit of a virtual circuit set up between the first end and a second end of the low-bit-rate artery according to the adaptation layer protocol;

sending the basic transmission unit of the virtual circuit from the first end to the second end of the low-bit-rate artery;

at the second end of the low-bit-rate artery, receiving the basic transmission unit of the virtual circuit and extracting the Common Part Sublayer packets from said unit by demultiplexing the packets from said unit;

determining the connection to which each of the Common Part Sublayer packets belong and inserting each Common Part Sublayer packet into a basic transmission unit at a rate of one packet per unit for transmission to an addressee user;

sending said basic transmission unit through a network downstream from the low-bit-rate artery to an adaptation unit assigned to the addressee user; and

at the adaptation unit assigned to the addressee user, extracting the Common Part Sublayer packet from the basic transmission unit.

2. (Previously presented) A method according to claim 1, comprising multiplexing of data in Common Part Sublayer packets from the same originating user upstream to the low-bit-rate artery and demultiplexing the Common Part Sublayer packets downstream from the low-bit-rate artery.

3. (Canceled)

4. (Previously presented) A method according to claim 1, further comprising using AAL2 protocol when multiplexing the Common Part Sublayer packets in the basic transmission unit of the virtual circuit between the first end and second end of the low-bit-rate artery.

5. (Previously presented) A method according to claim 1, wherein
the packet of application data is formed of a fixed number of successive coded frames,
and
the Common Part Sublayer packet is formed of the application data packet and a header.

6. (Previously presented) A method according to claim 1, further comprising transporting data from the originating user to the adaptation unit assigned to the originating user according to an AAL1 type protocol.

7. (Previously presented) A method according to claim 1 further comprising, downstream from the low-bit-rate artery:

if the downstream end of the artery corresponds to the upstream end of an additional low-bit-rate artery, repeating the actions of multiplexing the Common Part Sublayer packets from different originating users in a basic transmission unit of a virtual circuit set up between the first end and second end of the additional low-bit-rate artery, and sending the basic transmission unit of the virtual circuit from the first end to the second end of the additional low-bit-rate artery.

8. (Previously presented) A method according to claim 1 further comprising, at the level of the addressee user extracting the coded frames from the Common Part Sublayer packet and recreating the data for the addressee user.

9. (Previously presented) A method according to claim 1, further comprising using a user-to-user information (UUI) field in a header of the Common Part Sublayer packet to check the integrity of the data sent between the originating user and the addressee user in communication.

10. (Previously presented) A method according to claim 1, wherein the data from the originating user comprises video or digital voice data.

11. (Currently amended) A device for data transmission between at least two users in a communications network comprising at least one low-bit-rate artery and one or more standard-bit-rate arteries, a basic transmission unit, and supporting at least one adaptation layer protocol, wherein the device comprises at least one multiplexer device having a packetization function and a switching function, wherein the switching function of the multiplexer device is adapted to the switching of packets conveyed in the basic transmission units according to the adaptation layer protocol among several virtual lines constituted by connections in multiplexed

or non-multiplexed mode, and where the data on the one or more standard-bit-rate arteries are multiplexed onto the one low-bit-rate artery.

12. (Previously presented) A device according to claim 11 further comprising:
a shuffler to transmit a basic transmission unit to the multiplexer and carry out a transparent switching of the units that do not have to travel through a low-bit-rate artery,
wherein the packetization function is configured to extract the packets from the basic transmission units intended to travel through a low-bit-rate artery and for packetization of the packets in new basic transmission units in multiplexed mode for each low-bit-rate artery, and a table adapted for determining the artery over which the packets in the basic transmission units are intended to travel.

13. (Previously presented) A device according to claim 12, wherein the network supports an AAL2 type adaptation protocol.

14. (Previously presented) A device according to claim 13, wherein the device is an ATM switch equipped with a multiplexer configured to switch Common Part Sublayer packets among several virtual arteries constituted by ATM connections in multiplexed or non-multiplexed AAL2 mode.

15. (Currently amended) A network to convey data in a connection between at least two users, the network comprising one or more low-bit-rate arteries and one or more standard-bit-rate arteries, at least one adaptation layer protocol and one basic transmission unit,
wherein the network comprises at least one device comprising at least one multiplexer device having a packetization function and a switching function, wherein the switching function of the multiplexer device is adapted to the switching of packets conveyed in the basic transmission units according to the adaptation layer protocol among several virtual lines

constituted by connections in multiplexed or non-multiplexed mode, and where the data on the one or more standard-bit-rate arteries are multiplexed onto the one low-bit-rate artery, this device being positioned upstream to and downstream from a low-bit-rate artery.

16. (Previously presented) A network according to claim 15, wherein the device is an ATM switch.

17. (Previously presented) The network of Claim 15, wherein network comprises at least two said devices, with a first device positioned at a first end of a low-bit-rate artery and a second device positioned at a second end of the low-bit-rate artery,

wherein, in multiplexed mode, the first device is adapted to:

use the packetization function to extract multiple packets from basic transmission units received from different originating users;

multiplex said packets in a basic transmission unit of a virtual circuit set up between the first end and the second end of the low-bit-rate artery; and

send the basic transmission unit of the virtual circuit from the first end to the second end of the low-bit-rate artery;

and wherein, in multiplexed mode, the second device is adapted to:

receive the basic transmission unit of the virtual circuit;

use the packetization function to extract the packets from said unit by demultiplexing the packets from said unit;

determine the connection to which each of the packets belong;

insert each packet into a new basic transmission unit at a rate of one packet per unit for transmission to an addressee user; and

send said new basic transmission unit to the addressee user.